

New Faunistic Data of Gelechiidae (Lepidoptera) in Taiwan, with Description of A New Species

Kyu-Tek PARK, Sang-Mi LEE, and Jun-Seok LEE

Center for Insect Systematics, Kangwon National University, Chuncheon, 200-701 Korea
E-mail: cispa@kangwon.ac.kr

Abstract Ten species of Gelechiidae are reported for the first time from Taiwan, and a new species, *Faristenia obliqua* Park, sp. nov. is described, with illustrations of its male and female genitalia. It is confirmed that the record of *Parastenolechia clastrifera* Meyrick from Korea by Park (1993) was due to a misidentification.

Key words *Faristenia*, Gelechiidae, Lepidoptera, Taiwan

INTRODUCTION

Kanazawa and Heppner (1992) listed 26 species of Gelechiidae from Taiwan, based on previous reports from various publications and their own results on Taiwanese material, but, of them, the two species of *Brachmia* Hübner in their list do not belong to Gelechiidae in the recent sense. Recently Park (1995a, b) reviewed the genera *Anarsia* Zeller, *Hypatima* Hübner and its allies in Taiwan, reporting 26 species with descriptions of nine new species. Park and Hodges (1995a, b) also revised the genera *Dichomeris* and *Helcystogramma* in Taiwan, reporting 32 species with descriptions of 16 new species. In addition, Park (1995c) added another new species of *Dichomeris* to the Taiwanese fauna. From these previous studies, a total of 76 species of Gelechiidae, except seven species previously listed and counted twice, was known from Taiwan. In this study, we add 11 additional species, thus, now totaling 87 species of Gelechiidae are known.

SYSTEMATIC ACCOUNTS

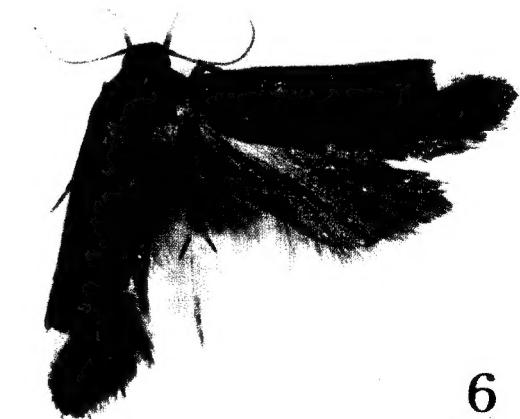
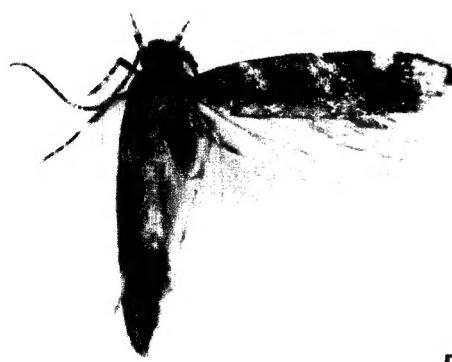
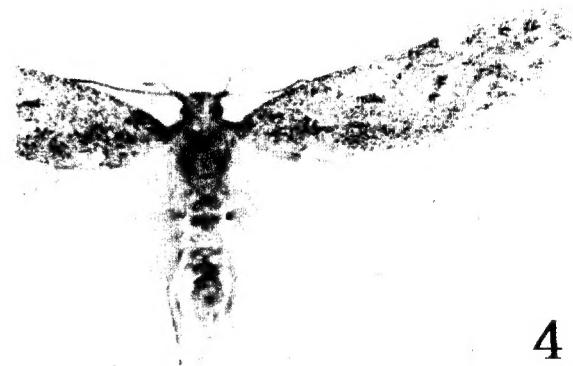
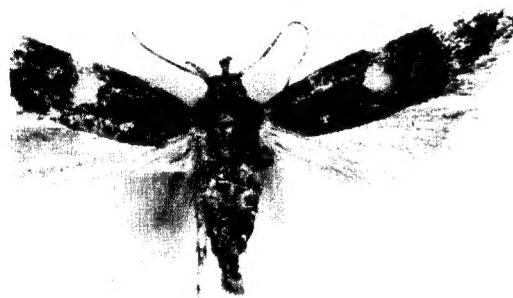
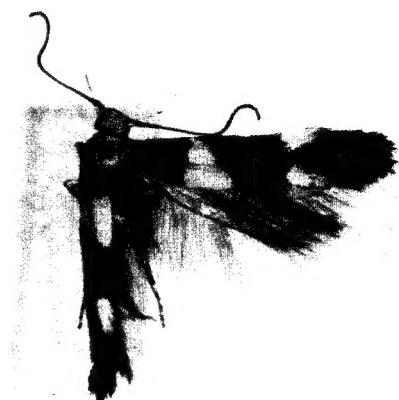
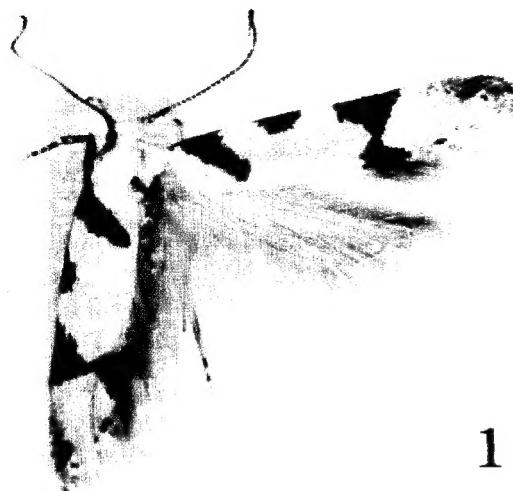
Genus *Parastenolechia* Kanazawa, 1985

Parastenolechia clastrifera (Meyrick, 1935)

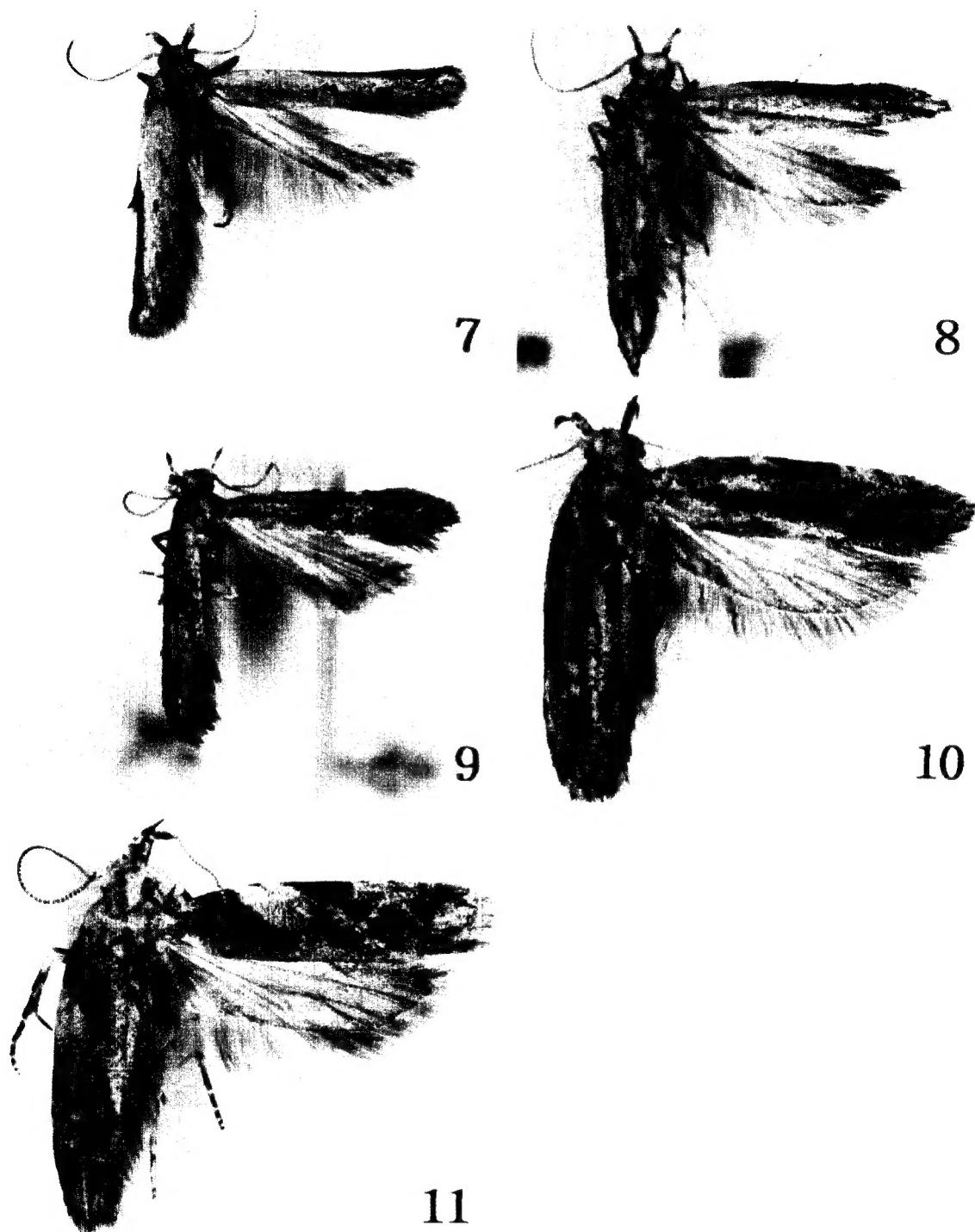
(Figs 1, 12A-C)

Telphusa clastrifera Meyrick, 1935, In Caradja and Meyrick, Mat. Microlep. Fauna Chines Prov.

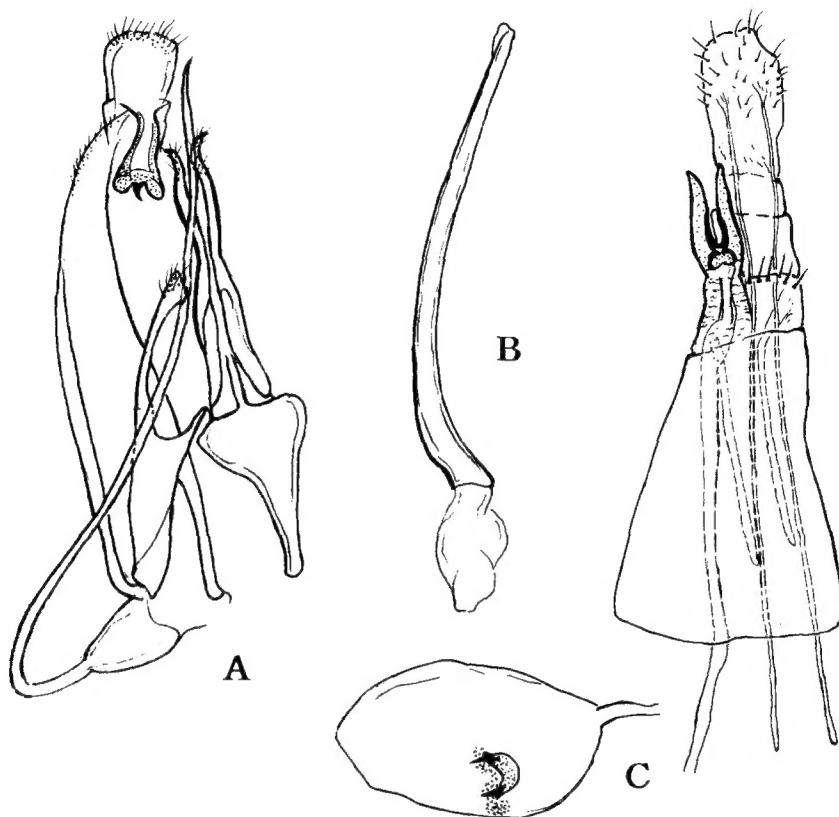
Kiangsu, Chekiang und Hunan, 66; Clarke, 1969: 431; Gaede, 1937: 122. TL (type locality): Tien-



Figs 1-6. Adults: 1. *Parastenolechia claustrifera* (Meyrick); 2. *Evippe albidorcella* Snellen; 3. *Teleiodes flavipunctella* Park; 4. *Athrips polymaculella* Park; 5. *Stegasta jejuensis* Park; 6. *Anacampsis amisogramma* Meyrick.



Figs 7-11. Adults: 7. *Mesophleps sublutiana* Park; 8. *Hypatima ovata* Park and Ponomarenko; 9. *Dendrophilia neotaphronoma* Ponomarenko; 10. *Faristenia omelkoi* Ponomarenko; 11. *Faristenia obliqua* Park, **sp. nov.**



Figs 12. A-C: Male and female genitalia of *Parastenolechia claustrifera* Meyrick: A. male genitalia, ventral view; B. ditto, aedeagus; C. female genitalia.

mu-shan, China.

Parastenolechia claustrifera: Park, 1993a: 187, figs 13, 14, 16 (misid.).

Wingspan 12–13 mm. Subbasal fascia not reached to dorsum; costal patch of the forewing semioval; postmedian fascia connected from costa to dorsum; three dark brown short streaks along margin near tornus.

Male and genitalia (Figs 1–A, B). Inner process of valva relatively short; arms of aedeagal fulcrum long, slender; saccus strongly fused with aedeagus at base; aedeagus longer than tegumen. Eighth tergite smoothly emarginated on distal margin.

Female genitalia (Figs 1–D). Lateral lobes of ostium elongated, with acute apex. Ductus bursae long, about 2.5 times length of corpus bursae; ductus seminalis arising from near conjunction with corpus bursae. Corpus bursae ovate; signum with strong lateral projections.

Material examined. 1♂, Kukuan 720 m, Taroko Natn. Park, Taichung Co., 8 VII 1996 (K.T. Park and H.K. Lee); 1♀, same data as the preceding specimen; 1♀, Tienchih 2260 m, Kaohsiung Co., 7.

VII. 1996 (K.T. Park and H.K. Lee).

Distribution. China (Zhejiang) and Taiwan (new record).

Remarks. This species was described from Tien-mu-shan, Zhejiang Prov., China, based on a single female, which was designated by Clarke (1969). The type specimen is preserving in the Natural History Museum, UK, but it is lacking her abdomen. Park (1993) reported this species from Korea, with illustration of the male and female genitalia, and he noted "Even I compared Korean specimens with the type specimen only in appearance, but I confirm that it is undoubtedly conspecific". At this time author examined critically the genitalia of both sexes of the Taiwanese specimens, and found that the genitalia of Taiwanese differ from those of the Korean specimens. From these result, author could reconfirm that the Taiwanese species is really *P. claustrifera* Meyrick, because it is close to the type locality, but the Koreans should be described as new to science later.

Genus *Evippe* Chambers, 1873

***Evippe albidorsella* (Snellen, 1884)**

(Fig. 2)

Recurvaria albidorsella Snellen, 1884, Tijd. Ent. 27: 169; Meyrick, 1925: 58; Caradja and Meyrick, 1935: 65; Gaede, 1937: 96.

Evippe albidorsella: Okada, 1961: 42; Park, 1991b: 119.

Evippe albidorcella (sic!): Park, 1983: 494, fig. 153, pl. 33: 561.

Wingspan 9–10 mm.

Male and genitalia. See Okada (1961, figs 1–11 (♂, ♀); Park (1983b, fig. 153 (♂)).

Material examined. 1 ♂, Kukuan 720 m, Taroko Ntn. Park, Taichung Co., 8 VII 1996 (K.T. Park and J.S. Lee).

Host plant. *Lespedeza bicolor* Turcz (Leguminosae).

Distribution. Korea, Japan, E. Siberia, China and Taiwan (new record).

Genus *Carpatolechia* Čapuse

***Carpatolechia flavipunctatella* (Park, 1992); comb. n.**

(Fig. 3)

Teleiodes flavipunctatella Park, 1992, Insecta Koreana 9: 9. TL: Yangyang, Korea.

Wingspan 11–15 mm.

Male and female genitalia. See Park (1992, figs 7 (♂), 27 (♀)).

Material examined. 1 ♂, Wulai 550 m, Taipei Co., 1–2 VII 1996 (K.T. Park and H.K. Lee).

Distribution. Korea and Taiwan (new record).

Genus *Athrips* Billberg, 1820***Athrips polymaculella* Park, 1991**

(Fig. 4)

Athrips polymaculella Park, 1991a, Kor. J. Appl. Ent. 30(3): 197. TL: Chuncheon, Korea.

Wingspan 13–16 mm.

Male and female genitalia. See Park (1991a, figs 3–4 (♂), 5 (♀)).

Material examined. 1 ♂, Tayuling 2570 m, Hualien Co., 10–14 VI 1982 (J.B. Heppner).

Distribution. Korea and Taiwan (new record).

Genus *Stegasta* Meyrick, 1904***Stegasta jejuensis* Park and Omelko, 1994**

(Fig. 5)

Stegasta jejuensis Park and Omelko, 1994, Jpn. J. Ent. 62(4): 867, figs 1, 2, 2a–b, 3, 4b. TL:

Topyoung, Seoguipo, Korea.

Wingspan 9.0–10.0 mm.

Male and female genitalia. See Park (1994, figs 2a–b (♂), 3 (♀)).

Material examined. 1 ♂, 650 m, Lienhuachih, For. Res. Ins., Nantou Co., 19–20 XI 1997 (K.T. Park).

Distribution. Korea, Japan and Taiwan (new record).

Remarks. An oriental species. This species was described from Jeju Island, which is located far from the Southwest of the Korean peninsula and Yokohama, Japan. Those type localities are the northernmost line in its distribution.

Genus *Anacampsis* Curtis, 1827***Anacampsis anisogramma* (Meyrick, 1927)**

(Fig. 6)

Compsolechia anisogramma Meyrick, 1927, Exot. Microl. 3: 353; Gaede, 1937: 348; Moriuti, 1982, part I: 280, part II: 213, pl. 13: 20; Park, 1983: 496, fig. 156, pl. 33: 564. TL: Shanghai, China.*Anacampsis anisogramma*; Park, 1988: 142, figs 19–23, 45.

Wingspan 17–19 mm.

Male and female genitalia. See Park (1988, figs 19–22 (♂), 23 (♀)).

Material examined. 1 ♂, Wulai 550 m, Taipei Co., 1–2 VII 1996 (K.T. Park and H.K. Lee).

Host plants. *Prunus salicina* Lindl, *P. mume* S. et Z., *P. armeniaca* var. *ansu* Max., *P. serrulata* var. *spontanea* (Max.) Wils., *P. yedoensis* Mats., and *P. avium* L. (Rosaceae), (Park, 1988).

Distribution. Korea, Japan, China and Taiwan (new record).

Remarks. This species is similar to *A. chlorodecta* Meyrick which was known from S. Manchuria, but it can be differentiated by the male and female genital characters.

Genus *Mesophleps* Hübner, 1825***Mesophleps sublutiana* (Park, 1990)**

(Fig. 7)

Brachyacma sublutiana Park, 1990, Kor. J. Appl. Ent. 29(2): 139, figs 2, 10. TL: Suwon, Korea.*Mesophleps sublutiana*: Li and Zheng, 1995: 106.

Wingspan 11–14 mm.

Male and female genitalia. See Park (1990, fig. 10 (♀)); Li and Zheng (1995, figs 203–204 (♂), 205 (♀)).

Material examined. 1 ♂, Lienhuachih, For. Res. Inst. Nantou Co., 19–20 XI 1997 (K.T. Park).

Distribution. Korea and Taiwan (new record).

Genus *Hypatima* Hübner, 1825***Hypatima ovata* Park, 1999**

(Fig. 8)

Hypatima ovata Park and Ponomarenko, 1999, Species Diversity 4: 328, figs 5, 17, 17a–b.

Wingspan 14 mm.

Male genitalia. See Park (1999, figs 17, 17a–b (♂)).

Material examined. 1 ♂, Ming-Chr 1160 m, Ilan Co., 9–10. VII. 1996 (K.T. Park and H.K. Lee).

Distribution. Thailand and Taiwan (new record).

Remarks. This species superficially resembles *H. silvestris* (Meyrick), but it can be separated from the latter by the male genital characters.**Genus *Dendrophilia* Ponomarenko, 1993*****Dendrophilia neotaphronoma* Ponomarenko, 1993**

(Fig. 9)

Dendrophilia neotaphronoma Ponomarenko, 1993, Zool. Zhurn. 72(4): 69; Park and Ponomarenko, 1996a: 345; Ponomarenko, 1997: 47. TL: Barabash–Levada, Primorskii krai, Russia.*Hypatima obscurella* Park, 1993b: 30, Figs 8, 46, 63. TL: Chuncheon, Korea.*Dendrophilia obscurella*: Park, 1995: 83, figs 14, 58–59, 83.

Wingspan 11–16 mm.

Male and female genitalia. See Ponomarenko (1993, figs 3–4 (♂), 7 (♀)); Park (1993b, figs 46 (♂), 63 (♀)); Park (1995, figs 58–59 (♂), 83 (♀)).

Material examined. 1 ♂, Wulai 550 m, Taipei Co., 29–30 VI 1996 (K.T. Park and H.K. Lee); 2 ♂, same locality, 1–2 VII 1996 (K.T. Park and H.K. Lee); 1 ♂, Ming-Chr 1160 m, Ilan Co., 9–10 VII 1996 (K.T. Park and H.K. Lee); 2 ♂, Kukuan 720 m, Taroko Natn. Park, Taichung Co., 8 VII 1996 (K.T. Park and J.S. Lee).

Host plant. *Lespedeza bicolor* Turc (Leguminosae), (Ponomarenko, 1997).

Distribution. Korea, Japan, Russian Far East (Primorye terr.) and Taiwan (new record).

Remarks. This species closely resembles *mediofasciana* Park superficially, but it can be separated by followings; forewing more elongate, without a distinct dark brown rectangular median fascia, costa before middle speckled with yellowish orange; termen of hindwing strongly sinuated.

Genus *Faristenia* Ponomarenko, 1991

***Faristenia omelkoi* Ponomarenko, 1991**

(Fig. 10)

Faristenia omelkoi Ponomarenko, 1991, Ent. Obozr. 70(3): 603, figs 1, 11, 12, 27; Park, 1993c: 36, figs 15, 53; Park and Ponomarenko, 1996a: 345; Ponomarenko, 1997: 44. TL: Barabash-Levada, Primorskii krai, Russia.

Faristenia nigriella Park, 1993b: 35, figs 14, 27, 39, 52, 69. TL: Chuncheon, Korea.

Wingspan 13–14 mm.

Male and female genitalia. See Ponomarenko (1991, figs 11–12 (♂), 27 (♀)); Park (1993c, figs 52 (♂), 69 (♀)).

Material examined. 3♂, 2♀, Kukuan 720 m, Taroko Ntn. Park, Taichung Co., 8 VII 1996 (K.T. Park and J.S. Lee).

Host plant. *Quercus mongolica*. Fisch (Fagaceae), (Ponomarenko, 1997).

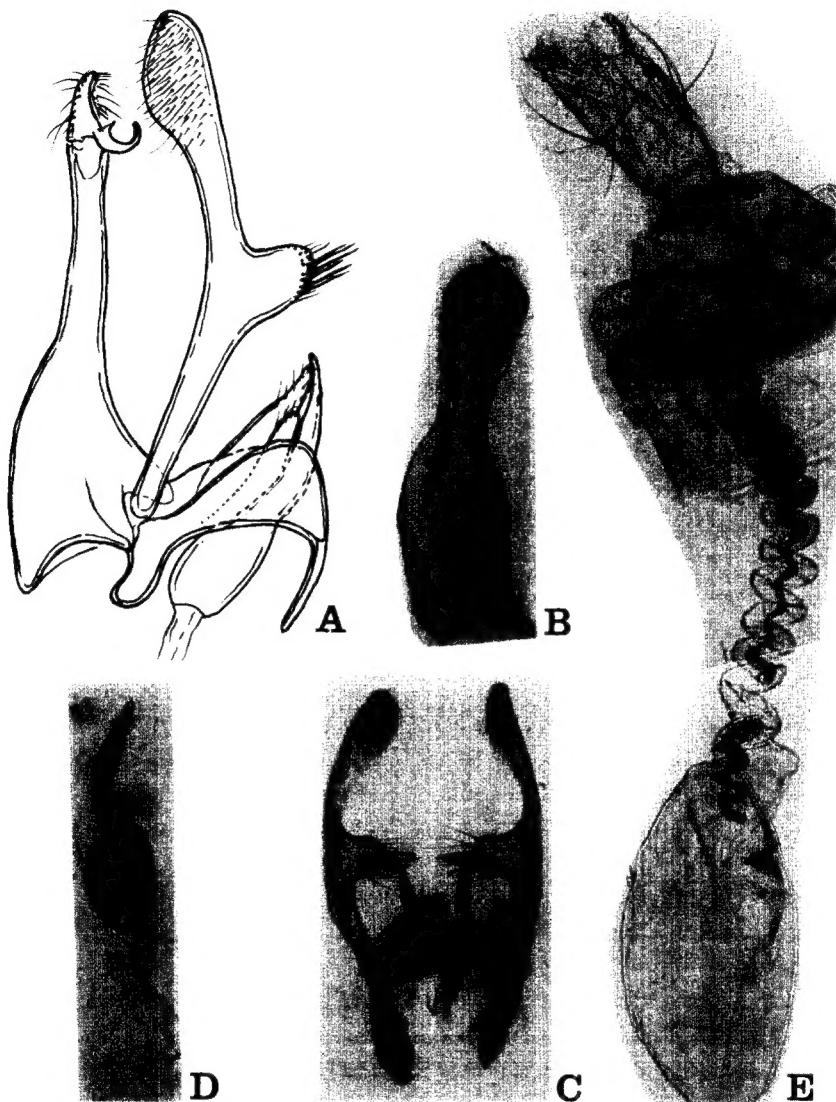
Distribution. Korea, Japan, Russian Far East (Primorye terr.), and Taiwan (new record).

***Faristenia obliqua* Park, sp. nov.**

(Figs 11, 13A–E)

Description. Wingspan 15–17 mm. Head orange gray dorsally, with orange white scales laterally above eyes. Tegula dark brown anteriorly. Thorax brownish orange, speckled with dark brownish scales. Second segment of labial palpus with a large triangular tuft anteriorly, dark brown on both surfaces except white scales near apex; 3rd segment longer than 2nd; creamy white with a narrow brownish band medially before half, but dark brown beyond half except apical 1/5, speckled with creamy white medially. Midtibia and tarsi dark brown ventrally. Hindtibia yellowish white ventrally, spurs brown outwardly. Forewing relatively broad; ground colour orange white to grayish orange; an oblique dark brown fascia clearly developed arising from 1/6 of costa towards 1/4 of dorsum but not reached to dorsum; costal patch at middle dark brown, trapezoidal, accompanying two small patches beyond it; several dark streaks irregularly run beyond middle. Hindwing pale gray, with a long hair-tuft near base of cell.

Male genitalia (Figs 2A–D). Uncus relatively short; distal margin round, with a row of short setae along margin ventrally. Gnathos rather small, apex obtuse. Valva relatively long, exceeding apex of uncus; cucullus more or less expanded, bearing setae densely; median protrusion well-sclerotized, with about 10 long setae around apex and some other weak, short ones; apex rounded; valvella narrowed toward apex. Juxta with digitate lateral lobes; lobes about 2/3 of valvella in length. Saccus slender. Aedeagus globular



Figs 13. A-E: Male and female genitalia of *Faristenia obliqua* Park, sp. nov.: A. male genitalia, lateral view; B. ditto, tegumen and uncus; C. ditto, valva and saccus parts; D. ditto, aedeagus; E. female genitalia.

at basal 2/5, slightly twisted beyond it, with more or less acute apex.

Female genitalia (Fig. 2E). Apophyses anteriores about 1/2 of posteriores. Distal margin of median plate of 8th tergite almost flat. Seventh tergite with heavily sclerotized narrow band distally. Ostium bursae heavily sclerotized, hat-shaped, with a pair of well-developed, pocketlike lateral lobes. Ductus bursae very long, coiling. Corpus bursae semiovate, relatively long; signum triangularly hollowed, sclerotized, placed at distal 2/3.

Types. Holotype, male, Ming-Chr 1160 m, Ilan Co., Taiwan, 9-10 VII 1996 (K.T. Park and J.S. Lee).

Paratypes. 9♂, 2♀, same data as holotype, genital preparation. no. 4576 (♀); 1♂, Upper Palin 2260 m, Taoyuan Co., 8 VII 1996 (K.T. Park and J.S. Lee); 2♂, Kukuan 720 m, Taroko Natn. Park, Taichung Co., 8 VII 1996 (K.T. Park and J.S. Lee), gen. prep. no. 4572.

Distribution. Taiwan.

Etymology. The species name is derived from Latin, *obliquus* (= oblique), corresponding to the slanted dark brown fascia on the forewing.

REFERENCES

Caradja, A. and E. Meyrick. 1935. Materialien zu einer Microlepidoptera-fauna der chinesischen Provinzen Kiangsu, Chekiang und Hunan. Bucharest. 96 pp.

Clarke, I.F.B. 1969. Catalogue of type specimens Microlepidoptera in the British Museum (Nat. Hist.) described by Edward Meyrick. 6: 406–437. The British Museum (Natural History), London.

Gaede, M. 1937. Family Gelechiidae, *In* Bryk, F. (ed.), Lepidopterum Catalogues 79. 630 pp. Berlin.

Kanazawa, I. and J.B. Heppner. 1992. Family Gelechiidae. *In* Heppner I.B. and H. Inoue (eds). Check list of Lepidoptera of Taiwan. Part 2: 70.

Li, H. and Z. Zheng. 1995. New species and new records of the genus *Mesophleps* Hübner (Lepidoptera: Gelechiidae) from Kenya and China. *J. Northwest Forestry College* 10(4): 27–35.

Li, H. and Z.M. Zheng. 1998. A systematic study on the genus *Dendrophilia* Ponomarenko, 1993 from China (Lepidoptera: Gelechiidae). *Shilap Revta. lepid.* 26: 101–111.

Li, H. and Z. Zheng. 1998. A taxonomic review of the genus *Faristenia* from China (Lepidoptera: Gelechiidae). *Acta Zootax. Sinica* 23(4): 386–398.

Meyrick, E. 1925. Lepidoptera Heterocera, Gelechiidae, *In* Wytsman (ed.), *Genera Insectorum* 184: 1–290, pls 1–5.

Meyrick, E. 1927. Exotic Microlepidoptera. 3: 353. Marlborough.

Moriuti, S. 1982. Family Gelechiidae, *In* Inoue, H., et al. (eds), *Moths of Japan* 1: 275–287, 2: 125, 212–215, pl. 13, fig. 227.

Okada, M. 1961. The genera *Evippe* and *Stenolechia* of Japan, with the descriptions of two species of the latter (Lepidoptera: Gelechiidae). *Trans. Shikoku Ent. Soc.* 7(1–2): 41–48, pls 3–7.

Park, K.T. 1983. Family Gelechiidae. *In* Shin, Y.H., K.T. Park, S.H. Nam (eds), *Illustrated Flora and Fauna of Korea*. vol. 27, *Insecta* (9): 485–508.

Park, K.T. 1988. Systematic study on the genus *Anacampsis* (Lepidoptera, Gelechiidae) in Japan and Korea. *Tinea* 12(16): 135–155.

Park, K.T. 1990. Three species of genera *Brachyacma* Meyrick and *Aristotelia* Hübner (Lepidoptera: Gelechiidae). *Korean J. Appl. Ent.* 29(2): 136–143.

Park, K.T. 1991. Korean species of the genus *Athrips* Billberg (Lepidoptera: Gelechiidae). *Korean J. Appl. Ent.* 30(3): 196–200.

Park, K.T. 1992. Systematics of the subfamily Gelechiinae (Lepidoptera, Gelechiidae) in Korea II, Tribe Teleoidini. *Ins. Koreana* 9: 1–33.

Park, K.T. 1993(a). Genera *Parastenolechia* Kanazawa and *Laris* Omelko (Lepidoptera, Gelechiidae) in Korea. *Korean J. Appl. Ent.* 32(2): 184–192.

Park, K.T. 1993(b). A review of the genus *Hypatima* and its related genera in Korea. 1993. *Ins. Koreana* 10: 25–49.

Park, K.T. 1994. Two new species of genus *Stegasta* (Lepidoptera, Gelechiidae). *Jpn. J. Ent.* 62(4): 867–871.

Park, K.T. 1995(a). Gelechiidae from Taiwan I. Review of *Anarsia*, with description of four new species (Lepidoptera, Gelechioidea). *Tropical Lep.* 6(1): 55–66.

Park, K.T. 1995(b). Gelechiidae from Taiwan II. *Hypatima* and allies, with description of a new genus and five new species (Lepidoptera, Gelechioidea). *Tropical Lep.* 6(1): 67–85.

Park, K.T. 1995(c). Description of a new species of *Dichomeris* Hübner (Lepidoptera, Gelechiidae). *Tinea* 14(4): 230–233.

Park, K.T. and R.W. Hodges. 1995(a). Gelechiidae of Taiwan III. Systematic revision of the genus *Dichomeris* in Taiwan and Japan. *Ins. Koreana* 12: 1–96, figs 26, pl. 7.

Park, K.T. and R.W. Hodges. 1995(b). Gelechiidae of Taiwan IV. Genus *Helcystogramma* Zeller, with description of a new species (Lepidoptera, Gelechioidea). *Korean J. Syst. Zool.* 11(2): 223–234.

Park, K.T. and M. Omelko. 1994. Two new species of genus *Stegasta* (Lepidoptera, Gelechiidae). *Jpn. J. Ent.* 62(4): 867–871.

Park, K.T. and M.G. Ponomarenko. 1996. New faunistic data of the Gelechiidae (Lepidoptera) in Korea, with description of two new species of *Anarsia* Zeller. *Kor. J. Ent.* 26(4): 343–349.

Park, K.T. and M.G. Ponomarenko. 1999. Genus *Hypatima* Hübner and allied genera from Thailand (Lepidoptera, Gelechiidae). *Species Diversity* 4(2): 321–337.

Ponomarenko, M.G. 1991. A new genus and species of gelechiid moths of the subfamily Chelariinae (Lepidoptera; Gelechiidae) of the fauna of the USSR. *Ent. Obozr.* 70(3): 600–640.

Ponomarenko, M.G. 1993. *Dendrophilia* gen. n. (Lepidoptera, Gelechiidae) from the Far East with notes on biology of some species of the genus. *Zool. Zhurn.* 72(4): 58–73. Moscow.

Ponomarenko, M.G. 1997. Catalogue of the subfamily Dichomeridinae (Lepidoptera, Gelechiidae) of the Asia. *Far Eastern Entomologist* 50: 1–67.

Snellen, P. 1884. Nieuwe of weining bekende Microlepidoptera van Noord-Azie. *Tijd. Entom.* 27: 151–196.

대만산 뿔나방科의 10 未記錄種 및 1 新種

朴 奎 澤 · 李 相 美 · 李 埃 碩

江原大學校 農業生命科學大學

대만산 뿔나방科의 재정리를 통해 10 未記錄種 및 1 新種이 발견되어 이를 보고하며, 1 新種, *Faristenia obliqua* Park, sp. nov.를 생식기 도해와 함께 기재, 발표한다.

(Received : July 3, 2000)

(Accepted : August 30, 2000)